What is claimed is:

1.   A blood water content detection device comprising:

        a pulse wave detection section which noninvasively detects a peripheral pulse

5   wave; and

        an index extraction section which extracts an index which changes depending

on a blood water content from the detected pulse wave.

2.   The blood water content detection device as defined in claim 1,

10   wherein the index extraction section extracts the index based on a pulse height

of a dicrotic notch in the pulse wave.

3.   The blood water content detection device as defined in claim 2,

        wherein the index extraction section extracts as the index a first ratio of a pulse

15   height of a first rise point of one cycle of the pulse wave and a pulse height of the

dicrotic notch.

4.   The blood water content detection device as defined in claim 1,

        wherein the index extraction section extracts the index based on a pulse height

20   of an ejection wave in the pulse wave.

5.   The blood water content detection device as defined in claim 4,

        wherein the index extraction section extracts a first ratio of a pulse height of a

first rise point of one cycle of the pulse wave and a pulse height of the ejection wave.

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6.   The blood water content detection device as defined in claim 3,

        wherein the index extraction section further extracts a reference index which is

less dependent on the blood water content than the first ratio, and outputs a ratio of the index to the reference index.

7.   The blood water content detection device as defined in claim 5,

wherein the index extraction section further extracts a reference index which is less dependent on the blood water content than the first ratio, and outputs a ratio of the index to the reference index.

8.   The blood water content detection device as defined in claim 6,

wherein the index extraction section extracts as the reference index a second ratio of the pulse height of the first rise point of one cycle of the pulse wave and a pulse height of a dicrotic wave.

9.   The blood water content detection device as defined in claim 7,

wherein the index extraction section extracts as the reference index a second ratio of the pulse height of the first rise point of one cycle of the pulse wave and a pulse height of a dicrotic wave.

10.   The blood water content detection device as defined in claim 1, further comprising:

a low-cut section which removes a low frequency component due to changes caused by activities of an autonomic nervous system (excluding movement of blood vessels) from the pulse wave detected by the pulse wave detection section.

11.   The blood water content detection device as defined in claim 10,

wherein the low-cut section further removes a low frequency component caused by body movement of a subject in a resting state.

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12.   The blood water content detection device as defined in claim 10,

wherein the low-cut section sets the low-cut frequency range from 0.4 to 0.5

Hz.

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13.   The blood water content detection device as defined in claim 10,

wherein the low-cut section is formed of a bandpass filter which sets the

high-cut frequency range from 16 to 30 Hz.

10   14.   The blood water content detection device as defined in claim 1, further

comprising:

a first differentiation section which differentiates the pulse wave; and

a second differentiation section which differentiates the pulse wave

differentiated by the first differentiation section, wherein:

15   a second differential waveform which is output from the second differentiation

section has five inflection points having pulse heights "a" to "e" sequentially output on

a time base within one cycle; and

the index extraction section extracts the index based on at least one of the five

pulse heights.

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15.   The blood water content detection device as defined in claim 14,

wherein the index extraction section extracts a pulse height ratio (d/a).

16.   The blood water content detection device as defined in claim 14,

25   wherein the index extraction section extracts a pulse height ratio (b/a).

17.   The blood water content detection device as defined in claim 14,

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wherein the index extraction section extracts a pulse height ratio [(d/a)/(b/a)].

18. The blood water content detection device as defined in claim 14,

wherein the index extraction section extracts a pulse height ratio [(d/a)/(e/a)].

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19. The blood water content detection device as defined in claim 14,

wherein the index extraction section extracts a pulse height ratio [(b/a)/(e/a)].

20. The blood water content detection device as defined in claim 1,

10 wherein the index extraction section extracts as the index a cardiac ejection

time from the pulse wave.

21. The blood water content detection device as defined in claim 1,

wherein the index extraction section extracts as the index a cardiac diastolic

15 time from the pulse wave.

22. The blood water content detection device as defined in claim 1,

wherein the index extraction section extracts as the index a ratio of a cardiac

ejection time to one cycle of the pulse wave from the pulse wave.

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23. The blood water content detection device as defined in claim 1,

wherein the index extraction section extracts as the index a ratio of a cardiac

diastolic time to one cycle of the pulse wave from the pulse wave.

25 24. A hemodialysis timing determination device comprising:

the blood water content detection device as defined in claim 1; and

a determination section which determines the timing of hemodialysis based on

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the output of the blood water content detection device.

25.   The hemodialysis timing determination device as defined in claim 24,

wherein the determination section compares the index output from the blood
water content detection device with a comparative value corresponding to a blood water
content upper limit, and determines the time when hemodialysis is necessary based on
the comparison result.

26.   The hemodialysis timing determination device as defined in claim 24,

wherein the determination section compares the index output from the blood
water content detection device with a comparative value corresponding to a blood water
content lower limit, and determines the time when hemodialysis is completed based on
the comparison result.